Post-traumatic stenosing flexor tenosynovitis

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TJ Best. Post-traumatic stenosing flexor tenosynovitis. *Can J Plast Surg* 2003;11(3):143-144.

Two cases of post-traumatic stenosing flexor tenosynovitis (flexor tendon entrapment or trigger digit) are presented. The medical literature contains few reports of this uncommon etiology for a problem that afflicts at least 2% of the adult population.

Key Words: Tenosynovitis; Trauma; Trigger finger

Inflammation sténosante, post-traumatique du tendon fléchisseur

Voici deux cas de ténosynovite sténosante, post-traumatique du fléchisseur (compression du tendon fléchisseur ou doigt à ressort). La documentation scientifique traite peu de cette cause inhabituelle d'inflammation, qui touche au moins 2 % de la population adulte.

POST-TRAUMATIC STENOSING FLEXOR TENOSYNOVITIS

Post-traumatic stenosing flexor tenosynovitis (trigger digit) is a poorly-described condition in the medical literature. However, patients present, albeit rarely, with complaints of this condition following nonpenetrating hand trauma. Two cases are presented.

CASE PRESENTATIONS

Case 1

A 58-year-old woman was driving her automobile and was stationary at an intersection. She was struck from behind by another vehicle, and braced herself in the accident with both of her hands on the steering wheel. She was wearing her seat belt; her vehicle was not equipped with an air bag. Her injuries were relatively minor, with complaints of posterior neck pain, and pain in both thumbs along the flexor surfaces. The neck pain settled in a few weeks with conservative therapy; the thumb pain did not. The thumb pain developed into 'triggering' with flexion, prompting a referral from her family practitioner for consultation.

This patient suffered previously from fibromyalgia, and also had a deQuervain's tenosynovitis of her nondominant left wrist successfully treated with surgery. She had stenosing flexor tenosynovitis of both thumbs on physical examination. She was treated with bilateral injections of 12 mg of triamcinolone acetate (Kenalog-40, Westwood-Squibb, Montreal, Quebec) to the flexor pollicis longus tendon sheaths. This yielded a modest but incomplete improvement (ie, the pain was lessened but the triggering element was not eliminated). She went on to have bilateral surgery and a successful resolution of symptomatology.

Case 2

A 44-year-old woman slipped on ice and fell, breaking her fall with her outstretched dominant right hand. She suffered pain and bruising of her buttocks; she noticed after a couple of days

that her ring finger was aching. The buttocks pain resolved spontaneously over about three weeks. The ring finger pain however worsened, with development of snapping of the finger in flexion, and pain on the volar base of the finger radiating into the proximal interphalangeal joint. She was seen at hand clinic in consultation six weeks post-injury. Radiographic examination was negative. Clinically, she had stenosing flexor tenosynovitis, with demonstrable triggering. She was treated with an injection of 12 mg of triamcinolone acetate (Kenalog-40, Westwood-Squibb, Montreal, Quebec) into the flexor tendon sheath at the A1 pulley region. Her symptoms resolved over a two week period.

DISCUSSION

The diagnosis of post-traumatic stenosing flexor tenosynovitis is a poorly-described clinical condition. It can be the source of conflict and disagreement with respect to etiology, particularly when the inciting incident is a potentially compensable event.

Trigger thumb and finger are generally divided etiologically into two groups: congenital and acquired (1). The acquired disorders are further subdivided into primary and secondary types. Primary acquired trigger digit onsets spontaneously predominately in middle-age, occurring in women four times as frequently as in men. Secondary acquired trigger digit is attributable to pregnancy, endocrinopathies such as diabetes mellitus and gout, inflammatory disorders such as rheumatoid arthritis, and structural abnormalities such as tumours of the flexor tendon or of the tendon sheath. Penetrating trauma has been reported to cause trigger finger on a delayed basis, due to the development of calcific tendonitis (2). This has been purported to be due to the implantation of a foreign body in the flexor tendon causing tendon calcification and nodule formation (3). The relationship of the workplace to trigger digits remains to be adequately defined (4-6).

In the first study case, the patient's response to corticosteroid injection was incomplete, but subsequent surgical

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release of the annular pulley resolved the symptomatology. The second patient responded favourably to a single corticosteroid injection; neither patient has had recurrence of symptoms. The pathophysiology of blunt trauma as a causative agent is unknown – edema and/or bleeding within the tendon sheath are possible inciting factors. Three cases of hyperextension injury induced trigger thumb have been previously reported (7). Steering wheel trauma has been reported to cause “tenosynovitis-tendonitis and bone bruising of the

metacarpals” in a recent report (8), documented by nuclear scan imaging.

Secondary gain from the claiming of an etiological relationship of the trauma was a possibility in the first case, as the patient did receive compensation from the automobile insurance company; no such confounding variable was present in the second case. Blunt trauma inciting stenosing flexor tenosynovitis appeared in both cases to have a clear cause-and-effect relationship.

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